



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,478	01/20/2006	Donald A. Tomalia	DNT-3 US	9919
50477 7590 12/15/2009 TECHNOLOGY LAW, PLLC 3595 N. SUNSET WAY SANFORD, MI 48657				
EXAMINER ROBINSON, ELIZABETH A				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
12/15/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/565,478

**Applicant(s)**

TOMALIA ET AL.

**Examiner**

Elizabeth Robinson

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 14-26, 28-31 and 33-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12, 13, 27 and 32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1-20-2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group II, claims 12-32 and phosphine as the linking group in the reply filed on August 21, 2009 is acknowledged. It is noted that while the election was not stated as being with traverse, since there were arguments presented, the election is being treated as with traverse. The traversal is on the ground(s) that Peng et al. (US 2004/0101976) does not teach phosphine linking groups. This is not found persuasive because Peng does teach phosphine linking groups in claims 12 and 23. The nanoparticle core elected was listed as CdSe/Cd. This is not a claimed core. However, since the species was listed as being present in claim 27, the Examiner is interpreting that the elected species is that of claim 27, CdSe/CdS. It is noted that Applicant chose the specific composition of Example 21 for the species election. However, since this level of detail is not presently claimed, the claims are considered to be met with the more broadly claimed phosphine species.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-11, 14-26, 28-31 and 33-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on August 21, 2009.

**Priority**

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. US 60/488909, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. All claims currently pending require a phosphine or phosphine oxide linking group. While the specification for 60/488909 (Page 2, lines 27-29) teaches that the dendrimers can contain phosphorous atoms, there is no mention of these phosphorous atoms being incorporated in the form of a phosphine or phosphine oxide. The only mention of phosphine in the specification for 60/488909 (Page 2, lines 5-6) relates to what has been done in the prior art.

### ***Information Disclosure Statement***

The information disclosure statement filed January 20, 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. While the Examiner did consider the documents listed in the IDS, copies of the foreign patent documents should be provided to make the record in the case complete.

### ***Drawings***

The drawings are objected to because it is unclear in Figure 4 what is meant to be represented by the "?". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either

"Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities: While the Examiner approved the entry of the amendments to the specification, as stated above, the currently claimed subject matter of this application is not entitled to priority to US 60/488909.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 12 and 32 are rejected under 35 U.S.C. 102(a or e) as being anticipated by Peng et al. (US 2004/0101976).**

Regarding claim 12, Peng teaches nanoparticles coated with organic dendrons in a colloidal solution (Abstract). The nanoparticles can be semiconductor nanoparticles or metals (Paragraph 62 and claim 9). The nanocrystal binding site (linking group) can be a phosphine (Claims 12 and 23).

Regarding claim 32, Peng (Paragraph 56) teaches that ammonia can be coupled to the outer surface of the dendron protected nanoparticle. Ammonia is used as a drug/pharmaceutical (smelling salts) and with its strong odor can be considered a fragrance.

**Claims 12, 13, 27 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Vossmeier et al. (US 2003/0109056).**

Regarding claims 12 and 27, Vossmeier (Abstract) teaches a nanoparticle network in which the nanoparticles are interlinked by functionalized dendrimer molecules. The nanoparticles can be in a colloidal solution (Paragraph 119). The nanoparticles can be metal or semiconductors, including core shell structures such as CdS/CdSe (Paragraphs 59 and 60). The dendrimers can comprise phosphines (Table 1, Paragraph 36).

Regarding claim 13, Vossmeier (Paragraph 39) teaches that the valences of the structural units not involved in linking to the dendrimer structure can carry a small alkyl group such as a methyl or ethyl group. This meets the limitations of the R groups. The

core of the dendrimer can further comprise any of the structural units of Table 1 in any combination. These include phenyl groups, methyl groups and ether groups (Paragraphs 36-39).

Regarding claim 32, Vossmeier (Abstract) teaches that the nanoparticles and dendrimers form a film that uptakes the analyte molecules. These analytes (Paragraph 130) include toluene and tetrachloroethylene which both have an odor and thus, can be considered to be fragrances.

### ***Response to Arguments***

Applicant's arguments filed September 6, 2006 have been fully considered but they are not persuasive.

Applicant argues that the instant application is entitled to priority to US Provisional Application 60/488909. However, as stated above, the provisional application does not provided support for the claimed linking groups.

Applicant argues that Peng et al. (US 2004/0101976) should be removed as a published reference due to the priority date of the provisional application. However, since the instant application is not entitled to this priority date, Peng remains as a published reference. It is noted that even if Applicant had priority to the provisional application, the Application date of Peng is still before that of Applicant's provisional application and would be applicable under 102(e).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies



(i.e., that dedrimers of phosphine may not fully quench the photoluminescence that is essential for biolabeling) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, Applicant argues that this effect would not be predicted and thus, would have inventive step over Peng. This is not persuasive, since Peng explicitly teaches phosphine linking groups and thus, the structure would be the same as that of the instant application and would intrinsically have the same properties. Additionally the data only shows a "lack of quenching" effect for the specific dendrons of Example 21 and thus, is not commensurate in scope with the more broadly claimed dedron comprising any phosphine.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is (571)272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. R./  
Elizabeth Robinson  
Examiner, Art Unit 1794

December 9, 2009

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794